

In the Claims

Please substitute the following claims:

1 (currently amended). A vector for secretory expression of an intact MK family protein by methylotrophic yeast, said vector comprising a gene encoding a mature MK family protein ligated to a signal sequence of $\alpha 1$ factor ~~derived~~ from *Saccharomyces cerevisiae*.

2 (currently amended). The vector according to claim 1 comprising components (a) to (g) below:

- (a) a promoter sequence of a methanol-inducible alcohol oxidase gene (AOX1) ~~derived~~ from *Pichia pastoris*,
- (b) a signal sequence of $\alpha 1$ factor ~~derived~~ from *Saccharomyces cerevisiae*,
- (c) a gene encoding a mature MK family protein, wherein said gene is ligated to (b),
- (d) a transcription termination sequence of a methanol-inducible alcohol oxidase gene (AOX1) ~~derived~~ from *Pichia pastoris*,
- (e) a selection marker gene functioning in *Escherichia coli* and methylotrophic yeast,
- (f) a replication origin functioning in *Escherichia coli*, and
- (g) 5' AOX1 and 3' sequences within the AOX1 gene for the site-specific homologous recombination to a methylotrophic yeast chromosomal DNA.

3 (original). The vector according to claim 1, wherein said MK family protein is MK protein.

4 (original). The vector according to claim 1, wherein said MK family protein is PTN protein.

5 (currently amended). A transformant comprising methylotrophic yeast transformed with a vector for secretory expression of an intact MK family protein, said vector comprising a gene encoding a mature MK family protein ligated to a signal sequence of $\alpha 1$ factor ~~derived~~ from *Saccharomyces cerevisiae*.

6 (previously amended). The transformant according to claim 5, wherein said transformant is pPIC9DP-hMK/SMD1168, said MK family protein is MK protein, and said methylotrophic yeast is strain SMD1168.

7 (previously amended). The transformant according to claim 5, wherein said transformant is pPIC9-hPTN/GS115, said MK family protein is PTN protein, and said methylotrophic yeast is strain GS115.

8 (currently amended). A method for producing an intact MK family protein, said method comprising culturing a transformant comprising methylotrophic yeast transformed with a vector for secretory expression of an intact MK family protein, said vector comprising a gene encoding a mature MK family protein ligated to a signal sequence of $\alpha 1$ factor ~~derived~~ from *Saccharomyces cerevisiae* and recovering secretory expression products.

9 (currently amended). The method according to claim 8, said method comprising:

(a) culturing a transformant comprising methylotrophic yeast transformed with a vector for secretory expression of an intact MK family protein, said vector comprising a gene encoding a mature MK family protein ligated to a signal sequence of $\alpha 1$ factor ~~derived~~ from *Saccharomyces cerevisiae*, wherein said transformant is pPIC9DP-hMK/SMD1168, said MK family protein is MK protein, and said methylotrophic yeast is strain SMD1168,

(b) inducing the expression of MK protein under the conditions of 20°C and pH 3 after proliferation at pH 4, and

(c) recovering secretory expression products.

10 (currently amended). The transformant, according to claim 5, wherein said vector comprises

- (a) a promoter sequence of a methanol-inducible alcohol oxidase gene (AOX1) ~~derived~~ from *Pichia pastoris*,
- (b) a signal sequence of $\alpha 1$ factor derived from *Saccharomyces cerevisiae*,
- (c) a gene encoding a mature MK family protein, wherein said gene is ligated to (b),
- (d) a transcription termination sequence of a methanol-inducible alcohol oxidase gene (AOX1) ~~derived~~ from *Pichia pastoris*,
- (e) a selection marker gene functioning in *Escherichia coli* and methylotrophic yeast,
- (f) a replication origin functioning in *Escherichia coli*, and
- (g) 5' ~~AOX1~~ and 3' sequences within the AOX1 gene for the site-specific homologous recombination to a methylotrophic yeast chromosomal DNA.

11 (previously added). The transformant, according to claim 5, wherein said MK family protein is MK protein.

12 (previously added). The transformant, according to claim 5, wherein said MK family protein is PTN protein.

13 (previously added). The method, according to claim 8, wherein said transformant is pPIC9DP-hMK/SMD1168, said MK family protein is MK protein, and said methylotrophic yeast is strain SMD1168.

14 (previously added). The method, according to claim 8, wherein said transformant is pPIC9-hPTN/GS115, said MK family protein is PTN protein, and said methylotrophic yeast is strain GS115.